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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,421	10/28/2003	David J. Napolitano	2002P03647US01	7330
7590	08/08/2007			EXAMINER
Craig A. Summerfield BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3768	
			MAIL DATE	DELIVERY MODE
			08/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/696,421	NAPOLITANO ET AL.	
Examiner	Art Unit		
Jaworski Francis J.	3768		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 23 January 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 167 - 194 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 167 - 194 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. \_\_\_\_\_  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_ 5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

**DETAILED ACTION**

***Double Patenting***

[ Claims 167 – 194 are present for examination in this case, claims 1 – 166 having been cancelled by the preliminary amendment filed on October 28, 2003.]

Claims 167 – 174, 177 – 178, 182-184, 186 - 188, 190-191 and 193 - 194 are again rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims variously of U.S. Patent No. 6193663. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims more narrowly than the spatially distinct (two or more) transmit beams associate with a fundamental and whose transmit waveforms differ by a phase difference and the combining is a claimed coherent summing in the patent claims to form a composite in relation to the fundamental and harmonics of the transmit and with the phase difference applied across the succession of transmit directions and where the receive beams are in one alternative spatially aligned with the transmit beams, and where the 180 degree phase difference is tantamount to a phase inversion and polarity reversal for the carrier wave and the imaging would be understood to be of a B-mode.

Claims 167 – 178, 180,182-184, 186-191, and 193 - 194 are again rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims variously of U.S. Patent No. 6436046. Although the conflicting claims are not identical, they are not patentably distinct from each other because the latter patent

is similarly characterizable as of narrower scope while embracing phase or polarity inversion and the claimed waveform parameterization controls except for features.

Claims 167 – 194 are again provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 10/696,421 in view of claims of US 6193663 and 6436046, since whereas the former claims only transmit operations in association with the various parameter variation types during spatially distinct transmit beam cycling, it would have been obvious in view of the claimed subject matter in the latter to composite the received result by combining the beams.

This is a provisional obviousness-type double patenting rejection.

Whereas a Terminal Disclaimer was submitted on January 23, 2007 this has been disapproved by the reviewer insofar as the signing attorney is not of record, and therefore for the present the rejection is sustained pending remedy of this defect.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 167-172 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The respective base claims do not establish that scan/image activity is occurring within a frame and therefore subsequent back reference to this terminology lacks antecedence.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 167 – 172 are rejected under 35 U.S.C. 102(b) as being anticipated by Hwang (US6193662, of record with applicants' IDS), alone or under 35 USC103(a) as obvious further in view of Hwang et al (US6228031 also of record) since, there being no confinement to activities within a frame due to ambivalence as noted above in the respective base claims, Hwang is directed to transmitting spatially distinct beams while cycling transmit parameters across sequential frames with combination across frames of the spatially distinct beams, or particularly in view of the RF interpolation which constructs scanlines from spatially distinct beams in Hwang et al.

This action is NOT made final however the case should be prepared for final action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.



Francis J. Jaworski  
Primary Examiner

FJJ:fjj

8-3-07